

July 24, 2001

Kevin Koon
Torque Engineering Corporation
2932 Thorne Drive
Elkhart, Indiana 46514

Re: Registered Operation Status,
039-13736-00351

Dear Mr. Koon:

The application from Torque Engineering Corporation, received on December 28, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following high performance marine engine manufacturing source located at 2932 Thorne Drive, Elkhart Indiana, is classified as registered:

- (a) Two (2) engine test cells, rated at 900 - 1,100 horsepower output, exhausted through Stacks S2A and S2B, installed in 1994, capacity: 0.0453 engines per hour, total and 0.089 gallons of gasoline per hour total.
- (b) One (1) spray paint booth, equipped with dry filters, exhausted through Stack S1, installed in 1994, capacity 0.0453 engines per hour.
- (c) One (1) cold cleaner/degreaser installed in 1994, capacity: 0.089 gallons of cleaner per hour.
- (d) One (1) natural gas-fired space heater, known as W-1, rated at 0.125 million British thermal units per hour, installed in 1994.
- (e) One (1) natural gas-fired space heater, known as W-2, rated at 0.10 million British thermal units per hour, installed in 1994.
- (f) One (1) natural gas-fired space heater, known as S-1, rated at 0.231 million British thermal units per hour, installed in 1994.
- (g) One (1) natural gas-fired space heater, known as N-1, rated at 0.180 million British thermal units per hour, installed in 1994.
- (h) Two (2) natural gas-fired space heater, known as UH-1 and UH-2, rated at 0.200 million British thermal units per hour, each, installed in 1994.
- (i) One (1) natural gas-fired space heater, known as UH-3, rated at 0.100 million British thermal units per hour, installed in 1994.
- (j) One (1) natural gas-fired space heater, known as UH-4, rated at 0.150 million British thermal units per hour, installed in 1994.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Any change or modification which may increase the potential to emit a combination of HAPs, VOC, SO₂, NO_x, PM or PM₁₀ to twenty five (25) tons per year, or CO to one hundred (100) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.
3. Pursuant to 326 IAC 6-3-2 (Process Operations):

The particulate matter (PM) from the spray paint booth shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$
where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The dry filters shall be in operation at all times the spray paint booth is in operation, in order to comply with this limit.
4. Any change or modification which may increase the potential to emit VOC from coating metal substrates to fifteen (15) pounds or more per day shall require approval from IDEM, OAQ prior to making the change.
5. Pursuant 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:
 - (a) Equip the cleaner with a cover;
 - (b) Equip the cleaner with a facility for draining cleaned parts;
 - (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
 - (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
 - (e) Provide a permanent, conspicuous label summarizing the operation requirements;
 - (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
6. Pursuant to 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control):
 - (a) The owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following

requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

- (1) Close the cover whenever articles are not being handled in the degreaser.
- (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
- (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

This registration is a registration renewal issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

MLK/MES

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Greg Wingstrom
Northern Regional Office
Permit Tracking - Janet Mobley
Air Programs Section- Michele Boner

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Torque Engineering Corporation
Address:	2932 Thorne Drive
City:	Elkhart, Indiana 46514
Authorized individual:	Kevin Koon
Phone #:	219 - 264 - 2628
Registration #:	039-13736-00351

I hereby certify that Torque Engineering Corporation is still in operation and is in compliance with the requirements of Registration **039-13736-00351**.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration Renewal

Source Background and Description

Source Name:	Torque Engineering Corporation
Source Location:	2932 Thorne Drive, Elkhart, Indiana 46514
County:	Elkhart
SIC Code:	8711
Operation Permit No.:	R 039-13736-00351
Permit Reviewer:	Mark L. Kramer

The Office of Air Quality (OAQ) has reviewed an renewal application from Torque Engineering Corporation relating to the construction and operation of a high performance offshore marine engine manufacturing source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) Two (2) engine test cells, rated at 900 - 1,100 horsepower output, exhausted through Stacks S2A and S2B, installed in 1994, capacity: 0.0453 engines per hour, total and 0.089 gallons of gasoline per hour total.
- (b) One (1) spray paint booth, equipped with dry filters, exhausted through Stack S1, installed in 1994, capacity 0.0453 engines per hour.
- (c) One (1) cold cleaner/degreaser installed in 1994, capacity: 0.089 gallons of cleaner per hour.
- (d) One (1) natural gas-fired space heater, known as W-1, rated at 0.125 million British thermal units per hour, installed in 1994.
- (e) One (1) natural gas-fired space heater, known as W-2, rated at 0.10 million British thermal units per hour, installed in 1994.
- (f) One (1) natural gas-fired space heater, known as S-1, rated at 0.231 million British thermal units per hour, installed in 1994.
- (g) One (1) natural gas-fired space heater, known as N-1, rated at 0.180 million British thermal units per hour, installed in 1994.
- (h) Two (2) natural gas-fired space heater, known as UH-1 and UH-2, rated at 0.200 million British thermal units per hour, each, installed in 1994.

- (i) One (1) natural gas-fired space heater, known as UH-3, rated at 0.100 million British thermal units per hour, installed in 1994.
- (j) One (1) natural gas-fired space heater, known as UH-4, rated at 0.150 million British thermal units per hour, installed in 1994.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

There are no new facilities/units requiring approval during this review.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

CP 039-4851-00351, issued on October 13, 1995.

All conditions from previous approvals were incorporated into this permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S1	Spray Paint Booth	6.0	2.0	7,000	70
S2A & S2B	Engine Test Cells	22.0	0.75	1,100	200

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 28, 2000, with additional information received on May 14 and 16, 2001.

Emission Calculations

See pages 1 through 5 of 5 of Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.154
PM ₁₀	0.185
SO ₂	0.051
VOC	4.06
CO	36.7
NO _x	1.48

HAPs	Potential To Emit (tons/year)
TOTAL	0.537

- (a) The potential to emit (as defined in 326 IAC 2-5.1-2) of carbon monoxide (CO) is greater than twenty-five (25) tons per year, but less than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.

- (b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Test Cells	0.058	0.058	0.048	1.75	36.2	0.941	negligible
Spray Paint Booth	0.086	0.086	0.00	2.02	0.00	0.00	0.527
Degreaser	0.00	0.00	0.00	0.261	0.00	0.00	0.00
Heaters	0.010	0.041	0.003	0.030	0.455	0.542	0.010
Total Emissions	0.154	0.185	0.051	4.06	36.7	1.48	0.527

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this source. The degreaser is not subject to 40 CFR 63, Subpart T since it does not use any halogenated solvents.

State Rule Applicability - Entire Source

326 IAC 2-4.1-1 (New Source Air Toxics Control)

This source was constructed prior to July 27, 1997. Therefore, the requirements of 326 IAC 2-4.1-1 do not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit VOC is less than ten (10) tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Under no circumstance shall the source emit particulate matter to the extent that some visible portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 9-1 (CO Emission Limits)

This source does not engage in petroleum refining, ferrous metal smelting, or refuse incineration. Therefore, the requirements of 326 IAC 9-1 do not apply.

326 IAC 10-1 (NO_x Control In Clark and Floyd Counties)

Since this source is not in Clark or Floyd counties, the requirements of 326 IAC 10-1 do not apply.

State Rule Applicability - Individual Facilities

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The potential-to-emit VOC from the coating of metal is less than fifteen (15) pounds per day from the spray paint booth. Therefore, this rule is not applicable.

326 IAC 8-3-2 (Cold Cleaner Operations)

Pursuant 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations for cold cleaning operations constructed after January 1, 1980, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, shall ensure that the following requirements are met:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover

while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the spray paint booth shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dry filters shall be in operation at all times the spray paint booth is in operation, in order to comply with this limit.

- (b) The two (2) engine test cells and six (6) diesel-powered engineering engine test cells are not subject to 326 IAC 6-3-2 (Process Operations) because, pursuant to 326 IAC 1-2-59 ("Process weight; weight rate" defined), liquid fuels are not considered as part of the

process weight.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The two (2) engine test cells are not subject to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limits) because the total potential to emit sulfur dioxide from the engine test cells is less than twenty five (25.0) tons per year or ten (10.0) pounds per hour of SO₂. Therefore, the requirements of 326 IAC 7-1.1 does not apply to these facilities.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The two (2) engine test cells and one (1) spray paint booth are not subject to 326 IAC 8-1-6 (New facilities; General reduction requirements) because the total potential to emit volatile organic compounds from each facility is less than twenty five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

326 IAC 20-6 (Halogenated Solvent Cleaning)

The degreaser is not subject to this rule and 40 CFR 63 Subpart T since it does not use any halogenated solvents.

Conclusion

The operation of this high performance marine engine manufacturing source shall be subject to the conditions of the attached proposed Registration 039-13736-00351.

**Appendix A: Emission Calculations
Internal Combustion Engines - Gasoline**

Page 1 of 5 TSD App A

Company Name: Torque Engineering Corporation
Address City IN Zip: 2932 Thorne Drive, Elkhart, Indiana 46514
Registration: 039-13736
Plt ID: 039-00351
Reviewer: Mark L. Kramer
Date: December 28, 2000

Number of Engines Per Hour 0.0453 = 102 engines/2,250 hours
Gallons of Gasoline Per Engine 20
Heat Content of Gasoline 0.145348 mmBtu/gallon of gasoline

mmBtu/hr

0.132

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.100	0.100	0.084	1.63	3.03	62.70
Potential Emission in tons/yr (8760 hrs/yr)	0.058	0.058	0.048	0.941	1.75	36.2

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

Page 2 of 5 TSD App A

Company Name: Torque Engineering Corporation
Address City IN Zip: 2932 Thorne Drive, Elkhart, Indiana 46514
Registration: 039-13736
Plt ID: 039-00351
Reviewer: Mark L. Kramer
Date: December 28, 2000

Unit	mmBtu/hr
W1	0.125
W2	0.100
S1	0.231
N1	0.180
UH1	0.200
UH2	0.200
UH3	0.100
UH4	0.150
Total	1.286

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
1.286	10.83

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.010	0.041	0.003	0.542	0.030	0.455

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 3 for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions****Company Name: Torque Engineering Corporation****Address City IN Zip: 2932 Thorne Drive, Elkhart, Indiana 46514****Registration: 039-13736****Plt ID: 039-00351****Reviewer: Mark L. Kramer****Date: December 28, 2000****HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.137E-05	6.499E-06	4.062E-04	9.749E-03	1.841E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total
						HAPs
Potential Emission in tons/yr	2.708E-06	5.958E-06	7.582E-06	2.058E-06	1.137E-05	0.010

Methodology is the same as page 2.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Torque Engineering Corporation
Address City IN Zip: 2932 Thorne Drive, Elkhart, Indiana 46514
Registration: 039-13736
Plt ID: 039-00351
Reviewer: Mark L. Kramer
Date: December 28, 2000

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
Paints																
Additives for Topcoats (189S)	8.12	99.73%	0.0%	99.7%	0.0%	0.25%	0.05000	0.0453	8.10	8.10	0.02	0.44	0.08	0.000	3239.23	75%
Ironclad Rust Inhibitive (163)	11.10	58.80%	0.0%	58.8%	0.0%	41.20%	0.03300	0.0453	6.53	6.53	0.01	0.23	0.04	0.007	15.84	75%
Ironclad RI as applied	9.03	83.40%	0.0%	83.4%	0.0%	16.40%	0.08300	0.0453	7.53	7.53	0.03	0.68	0.12	0.006	45.92	75%
Ironclad Quick Dry Enamel (71)	9.60	60.30%	0.0%	60.3%	0.0%	39.70%	0.03300	0.0453	5.79	5.79	0.01	0.21	0.04	0.006	14.58	75%
Ironclad QDE as applied	7.68	84.00%	0.0%	84.0%	0.0%	15.80%	0.08300	0.0453	6.45	6.45	0.02	0.58	0.11	0.005	40.83	75%
Mineral Spirits (66/3)	6.43	100.00%	0.0%	100.0%	0.0%	0.00%	0.12500	0.0453	6.43	6.43	0.04	0.87	0.16	0.000	n/a	100%
Imron Polyurethane Enamel(M2231X 1)	8.15	60.14%	0.0%	60.1%	0.0%	33.74%	0.37500	0.0453	4.90	4.90	0.08	2.00	0.36	0.060	14.53	75%
Imron Activator (V-192)	7.65	69.83%	0.0%	69.8%	0.0%	30.17%	0.12500	0.0453	5.34	5.34	0.03	0.73	0.13	0.014	17.71	75%
Imron - Ready to Spray	8.03	62.56%	0.0%	62.6%	0.0%	32.85%	0.50000	0.0453	5.02	5.02	0.11	2.73	0.50	0.075	15.29	75%
211 Acrylic Enamel Reducer (90455)	6.70	100.00%	0.0%	100.0%	0.0%	0.00%	0.12500	0.0453	6.70	6.70	0.04	0.91	0.17	0.000	n/a	75%
Misc Sprays -2	7.16	85.00%	0.0%	85.0%	0.0%	15.00%	0.01134	0.0453	6.09	6.09	0.00	0.08	0.01	0.001	40.57	75%
Adhesives and Sealants																
271 Adhesive Sealant (271)	9.16	12.00%	0.0%	12.0%	0.0%	88.00%	0.00500	0.0453	1.10	1.10	0.00	0.01	0.00	0.000	1.25	100%
277 Adhesive Sealant (277)	9.16	10.00%	0.0%	10.0%	0.0%	90.00%	0.00500	0.0453	0.92	0.92	0.00	0.00	0.00	0.000	1.02	100%
290 Adhesive Sealant (290)	8.91	12.60%	0.0%	12.6%	0.0%	87.40%	0.00500	0.0453	1.12	1.12	0.00	0.01	0.00	0.000	1.28	100%
Blue Gasket Sealer (BLU4)	7.58	50.00%	0.0%	50.0%	0.0%	50.00%	0.03200	0.0453	3.79	3.79	0.01	0.13	0.02	0.000	7.58	100%
Epoxy Steel Resin	9.74	6.16%	0.0%	6.2%	0.0%	70.00%	0.00500	0.0453	0.60	0.60	0.00	0.00	0.00	0.000	0.86	100%
Form-A-Gasket #2	12.49	14.20%	0.0%	14.2%	0.0%	85.80%	0.11800	0.0453	1.77	1.77	0.01	0.23	0.04	0.000	2.07	100%
Ultra Blue No Leak Gasket (81725)	11.16	5.50%	0.0%	5.5%	0.0%	94.50%	0.10400	0.0453	0.61	0.61	0.00	0.07	0.01	0.000	0.65	100%
Permatex Copper Spray-A-Gasket (80696)	7.58	65.90%	65.0%	0.9%	0.0%	34.10%	0.01900	0.0453	0.07	0.07	0.00	0.00	0.00	0.000	0.20	100%
Solvents and Cleaners																
C-1/C-5 Carb Cleaner (90-1457)	6.99	100.00%	0.0%	100.0%	0.0%	0.00%	0.07400	0.0453	6.99	6.99	0.02	0.56	0.10	0.000	n/a	100%
C-32 Brake & Parts Cleaner	11.99	28.00%	0.0%	28.0%	0.0%	0.00%	0.08900	0.0453	3.36	3.36	0.01	0.32	0.06	0.000	n/a	100%
Safety Kleen 105 Solvent (6617)	6.70	100.00%	0.0%	100.0%	0.0%	50.00%	0.19700	0.0453	6.70	6.70	0.06	1.43	0.26	0.000	13.40	100%
Oils and Lubricants																
Man-845-55 Honing Oil	7.08	1.00%	0.0%	1.0%	0.0%	1.00%	0.03900	0.0453	0.07	0.07	0.00	0.00	0.00	0.000	7.08	100%
B-200L Lubricant	7.66	25.00%	0.0%	25.0%	0.0%	75.00%	0.01300	0.0453	1.92	1.92	0.00	0.03	0.00	0.000	2.55	100%
Tap Magic Aluminum Cutting Fluid	6.86	1.00%	0.0%	1.0%	0.0%	99.00%	0.04900	0.0453	0.07	0.07	0.00	0.00	0.00	0.000	0.07	100%
Tap Magic Protap Cutting Fluid	7.46	3.90%	0.0%	3.9%	0.0%	99.00%	0.03000	0.0453	0.29	0.29	0.00	0.01	0.00	0.000	0.29	100%
WD-40 Aerosol	5.19	80.00%	0.0%	80.0%	0.0%	20.00%	0.12100	0.0453	4.15	4.15	0.02	0.55	0.10	0.000	20.76	100%
Oil Based Carrier II	6.83	99.80%	0.0%	99.8%	0.0%	0.00%	0.25000	0.0453	6.82	6.82	0.08	1.85	0.34	0.000	n/a	100%

State Potential Emissions

Add worst case coating to all solvents

METHODOLOGY

PM	Control Efficiency	92.00%			
Uncontrolled			0.461	11.1	2.02
Controlled			0.461	11.1	2.02

Cold Cleaner Degreaser w/Safety Kleen

Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Gal of Mat. (gal/hour)	Potential VOC (tons per year)
6.70	100.00%	0.0089	0.261

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix A: Emission Calculations
HAP Emission Calculations**

Company Name: Torque Engineering Corporation
Address City IN Zip: 2932 Thorne Drive, Elkhart, Indiana 46514
Registration: 039-13736
Plt ID: 039-00351
Reviewer: Mark L. Kramer
Date: December 28, 2000

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % Perchloro ethylene	Weight % Ethyl Benzene	Weight % Trichloro ethylene	Weight % Glycol ethers	Xylene Emissions (tons/yr)	Toluene Emissions (tons/yr)	MEK Emissions (tons/yr)	Perchloro ethylene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Trichloroethylene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)
Paints																	
Additives for Topcoats (189S)	11.41	0.05000	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ironclad Rust Inhibitive (163)	11.10	0.03300	0.0453	1.20%	0.00%	0.00%	0.00%	1.20%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ironclad Quick Dry Enamel (71)	9.60	0.03300	0.0453	2.20%	0.00%	0.00%	0.00%	1.40%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mineral Spirits (66/3)	6.43	0.12500	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Imron Polyurethane Enamel(M2231X 1)	8.15	0.37500	0.0453	1.00%	3.00%	1.00%	0.00%	0.40%	0.00%	28.00%	0.01	0.02	0.01	0.00	0.00	0.00	0.17
Imron Activator (V-192)	7.65	0.12500	0.0453	0.00%	26.00%	15.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.05	0.03	0.00	0.00	0.00	0.00
211 Acrylic Enamel Reducer (90455)	6.70	0.12500	0.0453	10.00%	23.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02	0.04	0.00	0.00	0.00	0.00	0.00
Misc Sprays -2	7.16	0.01134	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adhesives and Sealants																	
271 Adhesive Sealant (271)	9.16	0.00500	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
277 Adhesive Sealant (277)	9.16	0.00500	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
290 Adhesive Sealant (290)	8.91	0.00500	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue Gasket Sealer (BLU4)	7.58	0.03200	0.0453	0.00%	0.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Epoxy Steel Resin	9.74	0.00500	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Form-A-Gasket #2	12.49	0.11800	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ultra Blue No Leak Gasket (81725)	11.16	0.10400	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Permatex Copper Spray-A-Gasket (80696)	7.58	0.01900	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solvents and Cleaners																	
C-1/C-5 Carb Cleaner (90-1457)	6.99	0.07400	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-32 Brake & Parts Cleaner	11.99	0.08900	0.0453	0.00%	0.00%	0.00%	45.00%	0.00%	30.00%	0.00%	0.00	0.00	0.00	0.10	0.00	0.06	0.00
Safety Kleen 105 Solvent (6617)	6.70	0.19700	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oils and Lubricants																	
Man-845-55 Honing Oil	7.08	0.03900	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B-200L Lubricant	7.66	0.01300	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tap Magic Aluminum Cutting Fluid	6.86	0.04900	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tap Magic Protap Cutting Fluid	7.46	0.03000	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WD-40 Aerosol	5.19	0.12100	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oil Based Carrier II	6.83	0.25000	0.0453	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Individual Total											0.025	0.106	0.063	0.095	0.004	0.064	0.170
Overall Total											0.527						

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lbs/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs